

REMARKS

This paper is responsive to the Non-Final Office Action dated October 20, 2004. Claims 1-41 were examined. Claims 1-20, 25-32, 34-38, and 40 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 14, 21, 23, 33, and 41 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,875,229 to Eyuboglu et al. Claims 22 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Eyuboglu in view of U.S. Patent No. 5,991,348 to Alelyunas et al. Claims 39 and 40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Eyuboglu in view of U.S. Patent No. 5,761,247 to Betts et al.

Information Disclosure Statement

Applicants respectfully request the Examiner to consider references AP and AQ cited on page 1 of the Information Disclosure Statement form 1449 dated November 7, 2000 and return an initialed copy of the form 1449. Copies of these references were submitted with the form 1449, and received by the USPTO as indicated by the return postcard dated, November 13, 2000, a copy of which is being submitted herewith. However, for the Examiner's convenience additional copies of these references and a copy of the Form 1449 filed on November 7, 2000 are provided with this communication.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 1-20, 25-32, 34-38, and 40 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Regarding claims 1-14, the Office Action states that there is insufficient antecedent basis for "the particular phases" in the last line of claim 1. Antecedent basis is provided by "the grouped phases" in line 12 of claim 1. Applicant respectfully maintains that claim 1 satisfies the requirements of 35 U.S.C. § 112. Accordingly, Applicant respectfully requests that the rejection of claim 1 and all claims dependent thereon, be withdrawn.

Regarding claims 15-20, 25, 26, and 28-31, the Office Action states that the limitation "the set of amplitude estimates" in line 2 of claim 15 is unclear. Claim 15 is amended to clarify

the claim language. Accordingly, Applicant respectfully requests that the rejection of claim 15 and all claims dependent thereon, be withdrawn.

Regarding claim 27, the Office Action states that “it is not clear what the limitation ‘the set of amplitude estimates’ in line 2 of claim 27 is referred to [sic].” Claim 27 is amended to clarify the claim language. Accordingly, Applicant respectfully requests that the rejection of claim 27 and all claims dependent thereon, be withdrawn.

Regarding claims 34-38, the Office Action states that “the limitation ‘calculates a difference between the set of amplitude estimates and a set of corresponding amplitude estimates’ in lines 2-3 of claim 34 is not understood (emphasis added).” Claim 34 is amended for clarity. Accordingly, Applicant respectfully requests that the rejection of claim 34 and all claims dependent thereon, be withdrawn.

In addition, the Office Action states that “[f]urther the limitation ‘the particular phase’ in line 4 of claim 35 lacks of antecedent basis.” Antecedent basis is provided by “for each of the N phases” in line 12 of claim 33. Applicant respectfully maintains that claim 35 satisfies the requirements of 35 U.S.C. § 112. Accordingly, Applicant respectfully requests that the rejection of claim 35 and all claims dependent thereon, be withdrawn.

Regarding claim 40, the Office Action states that “the scope of the limitation ‘other’ recited in lines 3 and 4 cannot be determined and is therefore indefinite.” Applicants respectfully maintain that claim 40 is not indefinite because one of ordinary skill in the art would understand what is claimed, in light of the specification. See MPEP § 2173.05(b) The limitations of claim 40 find support in the specification at least by the paragraph beginning at page 8, line 12 and the paragraph beginning at page 38, line 1. Accordingly, Applicant respectfully requests that the rejection of claim 40 and all claims dependent thereon, be withdrawn.

Claim Rejections Under 35 U.S.C. § 102

Claims 14, 21, 23, 33, and 41 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Eyuboglu et al. Regarding claim 14, Applicant respectfully maintains that Eyuboglu, alone or in combination with other references of record, fails to teach or suggest

for each of N phases of a received sequence, comparing one or more sets of amplitude estimates thereof to respective one or more sets of the amplitude estimates of other phases of the N phases to categorize the N phases into one or more groups according to similarity of the impairments, if any, present therein,

as required by claim 14. The Office Action relies on col. 14, lines 62-65 and FIG. 9 of Eyuboglu to supply this teaching. These portions of Eyuboglu teach that a “decoding process (implemented in section 450 of FIG. 4B) compares the received signal r_k with a signal constellation to predict what signal point was most probably sent to yield the received signal r_k .” Eyuboglu compares individual received octets with known octets included in first and second sets of octets from which the transmitted octet is selected. (Col. 12, line 1-col. 13, line 8) Nowhere does Eyuboglu teach or suggest comparing amplitude estimates corresponding to individual phases of a received sequence to amplitude estimates corresponding to other phases of a received sequence, as required by claim 14. For at least this reason, Applicant respectfully maintains that claim 14 distinguishes over Eyuboglu and all references of record. Accordingly, Applicant respectfully requests that the rejection of claim 14 and all claims dependent thereon, be withdrawn.

Regarding claim 33, Applicant respectfully maintains that Eyuboglu, alone or in combination with other references of record, fails to teach or suggest

for each of N phases of a sequence of amplitude estimates of a received sequence of symbols, a grouping component to compare one or more sets of amplitude estimates thereof to a respective one or more sets of the amplitude estimates of other phases of the N phases to categorize the N phases into one or more groups according to similarity of impairments present therein,

as required by claim 33. The Office Action relies on col. 14, lines 62-65 and FIG. 9 of Eyuboglu to supply this teaching. These portions of Eyuboglu teach that a “decoding process (implemented in section 450 of FIG. 4B) compares the received signal r_k with a signal constellation to predict what signal point was most probably sent to yield the received signal r_k .” Eyuboglu compares individual received octets with known octets included in first and second sets of octets from which the transmitted octet is selected. (Col. 12, line 1-col. 13, line 8) Nowhere does Eyuboglu teach or suggest comparing amplitude estimates corresponding to individual phases of a received sequence to amplitude estimates corresponding to other phases of a sequence of amplitude estimates of a received sequence, as required by claim 33. For at least this reason, Applicant respectfully maintains that claim 33 distinguishes over Eyuboglu and all references of record. Accordingly, Applicant respectfully requests that the rejection of claim 33 and all claims dependent thereon, be withdrawn.

Regarding claim 41, Applicant respectfully maintains that Eyuboglu, alone or in combination with other references of record, fails to teach or suggest

means for grouping the phase intervals according to apparent aggregate effect of the impairments thereon without identification of individual impairments active in the particular phases,

as required by claim 41. The Office Action relies on col. 10, lines 57-63 of Eyuboglu to supply this teaching. These portions of Eyuboglu teach logic that “determines for each octet interval in an octet window whether F1 or F0 RBS is present.” (Col. 10, lines 59-60) In fact, “logic in digital adaptor 220 examines the octets 235’ received during the training phase and by observing their LSBs constructs a characterization map, describing the affects [sic] of RBS on the octet intervals of a twenty-four interval octet window.” (Col. 10 line 64-col. 11, line 2) Eyuboglu identifies the effects of RBS on each octet interval and generates a map characterizing the effects of RBS on individual octet intervals. Nowhere does Eyuboglu teach or suggest grouping the phase intervals according to apparent aggregate effect of the impairments thereon without identification of individual

impairments active in the particular phases, as required by claim 41. For at least this reason, Applicant respectfully maintains that claim 41 distinguishes over Eyuboglu and all references of record. Accordingly, Applicant respectfully requests that the rejection of claim 41 and all claims dependent thereon, be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

Claims 22 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Eyuboglu in view of Alelyunas et al. Claims 22 and 24 depend from claim 14, a claim Applicant believes is allowable over the art of record. Applicant maintains that claims 22 and 24 are allowable for at least this reason.

Claims 39 and 40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Eyuboglu in view of Betts. Regarding claim 39, Applicant respectfully maintains that Eyuboglu, alone or in combination with Betts, fails to teach or suggest

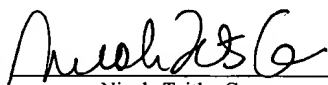
for each of N phases of received amplitude estimates, comparing a set of amplitude estimates thereof to a respective one or more sets of the amplitude estimates of other phases of the N phases to categorize the N phases into one or more groups according to similarity of impairments present therein,

as required by claim 39. The Office Action relies on col. 14, lines 62-65 and FIG. 9 of Eyuboglu to supply this teaching. These portions of Eyuboglu teach that a “decoding process (implemented in section 450 of FIG. 4B) compares the received signal r_k with a signal constellation to predict what signal point was most probably sent to yield the received signal r_k .” Eyuboglu compares individual received octets with known octets included in first and second sets of octets from which the transmitted octet is selected. (Col. 12, line 1-col. 13, line 8) Nowhere does Eyuboglu teach or suggest comparing amplitude estimates corresponding to individual phases of a received sequence to amplitude estimates corresponding to other phases of a received sequence, as required by claim 39.

Betts fails to compensate for the shortcomings of Eyuboglu. Betts teaches identifying RBS frames by evaluating least significant bits (LSBs) of frames of data. (Abstract) When an LSB of a particular frame of Betts consistently exhibits a certain logic state, then the particular frame is considered an RBS frame. (Abstract) Nowhere does Betts teach or suggest comparing amplitude estimates corresponding to individual phases of a received sequence to amplitude estimates corresponding to other phases of a received sequence, as required by claim 39.

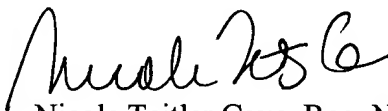
For at least these reasons, Applicant respectfully maintains that claim 39 distinguishes over Eyuboglu and all references of record. Accordingly, Applicant respectfully requests that the rejection of claim 39 and all claims dependent thereon, be withdrawn.

In summary, claims 1-41 are in the case. All claims are believed to be allowable over the art of record, and a Notice of Allowance to that effect is respectfully solicited. Nonetheless, if any issues remain that could be more efficiently handled by telephone, the Examiner is requested to call the undersigned at the number listed below.

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Respectfully submitted,



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